

RESULT 7

US-08-729-214-21

; Sequence 21, Application US/08729214

; Patent No. 5817502

; GENERAL INFORMATION:

; APPLICANT: Ligon, James M.
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Hammer, Phillip E.
; APPLICANT: van Pee, Karl-Heinz
; APPLICANT: Kirner, Sabine

; TITLE OF INVENTION: Genes for the synthesis of

; TITLE OF INVENTION: antipathogenic substances

; NUMBER OF SEQUENCES: 27

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 520 White Plains Road
; CITY: Tarrytown
; STATE: NY
; COUNTRY: USA
; ZIP: 10591

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/729,214

; FILING DATE: TBA

; CLASSIFICATION: 435

; ATTORNEY/AGENT INFORMATION:

; NAME: Meigs, J. Timothy
; REGISTRATION NUMBER: 38,241
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP5

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8587

; TELEFAX: 919-541-8689

; INFORMATION FOR SEQ ID NO: 21:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 1007 base pairs

; TYPE: nucleic acid

; STRANDEDNESS: single

; TOPOLOGY: linear

; MOLECULE TYPE: DNA (genomic)

; HYPOTHETICAL: NO

; ANTI-SENSE: NO

; FEATURE:

; NAME/KEY: CDS

; LOCATION: 1..669

; OTHER INFORMATION: /gene= "phz4"

; OTHER INFORMATION: /label= ORF4

; OTHER INFORMATION: /note= "This DNA sequence is repeated from SEQ ID

; OTHER INFORMATION: NO:17 so that the overlapping ORF4 may be

; OTHER INFORMATION: separately translated"

US-08-729-214-21

Query Match 4.9%; Score 142; DB 1; Length 1007;
Best Local Similarity 100.0%; Pred. No. 4.1e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 5 CTCTAGAACGTTGTCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG 64
Db 866 CTCTAGAACGTTGTCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG 925

Qy 65 TCAGACATTACTGAGGCTGCTACCACGATAGATTTCAAAACAAGCGTAAATATCTGAAA 124
Db 926 TCAGACATTACTGAGGCTGCTACCACGATAGATTTCAAAACAAGCGTAAATATCTGAAA 985

Qy 125 AGTGCAGAATCCTCAAAGCTT 146

Db 986 |||||||AGTCAGAATCCTTCAAAGCTT 1007

RESULT 1

US-08-258-261B-21

; Sequence 21, Application US/08258261B

; Patent No. 5639949

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Utknes, Scott Joseph

TITLE OF INVENTION: Genes for the synthesis of

TITLE OF INVENTION: antipathogenic substances

NUMBER OF SEQUENCES: 22

CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 7 Skyline Drive
; CITY: Hawthorne
; STATE: NY
; COUNTRY: USA
; ZIP: 10532

COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/258,261B
; FILING DATE: 08-JUN-1994
; CLASSIFICATION: 800

PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/457,205
; FILING DATE: 01-JUN-1995

ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

INFORMATION FOR SEQ ID NO: 21:

SEQUENCE CHARACTERISTICS:

; LENGTH: 1007 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)

HYPOTHETICAL: NO

ANTI-SENSE: NO

FEATURE:

; NAME/KEY: CDS
; LOCATION: 1..669
; OTHER INFORMATION: /gene= "phz4"
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "This DNA sequence is repeated from SEQ ID
; OTHER INFORMATION: NO:17 so that the overlapping ORF4 may be
; OTHER INFORMATION: separately translated"

US-08-258-261B-21

Query Match 4.9%; Score 142; DB 1; Length 1007;
Best Local Similarity 100.0%; Pred. No. 4.1e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 5 CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG 64
Db 866 CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG 925

Qy	65	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	124
Db	926	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	985
Qy	125	AGTGCAGAATCCTTCAAAGCTT	146
Db	986	AGTGCAGAATCCTTCAAAGCTT	1007

RESULT 6

AAX99375

ID AAX99375 standard; DNA; 5698 BP.

XX

AC AAX99375;

XX

DT 15-NOV-1999 (first entry)

XX

DE P. aurofaciens phenazine gene cluster sequence.

XX

KW Biocontrol strain; Pseudomonas fluorescens; pyrrolnitrin; crop plant;

KW fungal attack; pathogenic; Rhizoctonia; Phythium; phenazine; ss.

XX

OS Pseudomonas aureofaciens.

XX

FH Key Location/Qualifiers

FT CDS 105..1307

FT /*tag= a

FT /product= "phzF"

FT /note= "ORF1"

FT CDS 1323..1946

FT /*tag= b

FT /product= "phzA"

FT /note= "ORF2"

FT CDS 1943..3856

FT /*tag= c

FT /product= "phzB"

FT /note= "ORF3"

FT CDS 3859..4695

FT /*tag= d

FT /product= "phzC"

FT /note= "ORF4"

FT CDS 4692..5360

FT /*tag= e

FT /product= "phzD"

FT /note= "ORF5"

XX

PN US5955348-A.

XX

PD 21-SEP-1999.

XX

PF 25-NOV-1997; 97US-0977306.

XX

PR 25-NOV-1997; 97US-0977306.

XX

PA (NOVS) NOVARTIS AG.

XX

PI Gaffney TD, Hill DS, Ligon JM, Stafford JM, Torkewitz NR;

XX

DR WPI; 1999-539577/45.

XX

PT Strains of Pseudomonas fluorescens with enhanced pyrrolnitrin

PT production useful for the biocontrol of plant pathogens

XX

PS Example 9; Columns 57-64; 33pp; English.

XX

CC The invention provides novel biocontrol strains of P. fluorescens or
CC their pyrrolnitrin producing progeny. These strains of Pseudomonas have
CC been genetically engineered to have enhanced biocontrol properties. A
CC biocontrol strain of P. fluorescens can be selected from the group
CC consisting of: (a) CGA364474 (deposited as NRRL B-21887); (b) CGA364475
CC (deposited as NRRL B-21888); (c) CGA366259 (deposited as NRRL B-21889);
CC (d) CGA376150 (deposited as NRRL B-21890); (e) NOA402208 (deposited as
CC NRRL B-21891); (f) NOA402210 (deposited as NRRL B-21901); (g) NOA402212
CC (deposited as NRRL B-21892); (h) NOA402214 (deposited as NRRL B-21893);
CC (i) NOA402216 (deposited as NRRL B-21894); (j) NOA409063 (deposited as
CC NRRL B-21902); (k) NOA409068 (deposited as NRRL B-21895); (l) NOA413174
CC (deposited as NRRL B-21896); (m) NOA413175 (deposited as NRRL B-21897);
CC (n) NOA413176 (deposited as NRRL B-21898); or (o) NOA413177 (deposited

CC as NRRL B-21900). The strains of *P. fluorescens* may be used to control
CC pathogenic attack on crop plants, especially by fungi such as *Rhizoctonia*
CC or *Phythium*. The strains produce enhanced amounts of pyrrolnitrin and
CC aggressively compete with indigenous bacteria and microflora existing in
CC the rhizosphere of the plant. The present sequence represents a 5.7kb
CC *ecoRI/HindIII* gene fragment containing the phenazine *phzFABCD* gene
CC cluster from *P. aureofaciens*.

XX

SQ Sequence 5698 BP; 1166 A; 1855 C; 1677 G; 1000 T; 0 other;

Query Match 4.9%; Score 142; DB 20; Length 5698;
Best Local Similarity 100.0%; Pred. No. 3.2e-25;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	5	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCAGAACCTACATAAACAAAG	64
Db	5557	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCAGAACCTACATAAACAAAG	5616
Qy	65	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	124
Db	5617	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	5676
Qy	125	AGTGCAGAATCCTTCAAAGCTT	146
Db	5677	AGTGCAGAATCCTTCAAAGCTT	5698

RESULT 2

US-08-456-837-21

; Sequence 21, Application US/08456837

; Patent No. 5643774

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Uknas, Scott Joseph

; TITLE OF INVENTION: Genes for the synthesis of

; TITLE OF INVENTION: antipathogenic substances

; NUMBER OF SEQUENCES: 22

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 7 Skyline Drive
; CITY: Hawthorne
; STATE: NY
; COUNTRY: USA
; ZIP: 10532

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/456,837
; FILING DATE: 01-JUN-1995
; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: 08/457,205
; FILING DATE: 01-JUN-1995
; APPLICATION NUMBER: 08/258,261
; FILING DATE: 08-Jun-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

; INFORMATION FOR SEQ ID NO: 21:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 1007 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear

; MOLECULE TYPE: DNA (genomic)

; HYPOTHETICAL: NO

; ANTI-SENSE: NO

; FEATURE:

; NAME/KEY: CDS
; LOCATION: 1..669
; OTHER INFORMATION: /gene= "phz4"
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "This DNA sequence is repeated from SEQ ID
; OTHER INFORMATION: NO:17 so that the overlapping ORF4 may be
; OTHER INFORMATION: separately translated"

US-08-456-837-21

Query Match 4.9%; Score 142; DB 1; Length 1007;
Best Local Similarity 100.0%; Pred. No. 4.1e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 866 CTCTAGAACGTTGCCTGACCCAGCGATAGACATCGGGCCAGAACCTACATAACAAAG 925
Qy 65 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 124
Db 926 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 985
Qy 125 AGTGCAGAATCCTTCAAAGCTT 146
Db 986 AGTGCAGAATCCTTCAAAGCTT 1007

RESULT 3

US-08-457-342-21

; Sequence 21, Application US/08457342

; Patent No. 5662898

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Uknes, Scott Joseph

TITLE OF INVENTION: Genes for the synthesis of

TITLE OF INVENTION: antipathogenic substances

NUMBER OF SEQUENCES: 22

CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 7 Skyline Drive
; CITY: Hawthorne
; STATE: NY
; COUNTRY: USA
; ZIP: 10532

COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/457,342
; FILING DATE: 01-JUN-1995
; CLASSIFICATION: 424

PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/457,205
; FILING DATE: 01-JUN-1995
; APPLICATION NUMBER: 08/258,261
; FILING DATE: 08-Jun-1994

ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

INFORMATION FOR SEQ ID NO: 21:

SEQUENCE CHARACTERISTICS:

; LENGTH: 1007 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear

; MOLECULE TYPE: DNA (genomic)

; HYPOTHETICAL: NO

; ANTI-SENSE: NO

FEATURE:

; NAME/KEY: CDS
; LOCATION: 1..669
; OTHER INFORMATION: /gene= "phz4"
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "This DNA sequence is repeated from SEQ ID
; OTHER INFORMATION: NO:17 so that the overlapping ORF4 may be
; OTHER INFORMATION: separately translated"

US-08-457-342-21

Query Match 4.9%; Score 142; DB 1; Length 1007;
Best Local Similarity 100.0%; Pred. No. 4.1e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 866 |||||||CTCTAGAACGTTGTCCCTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG 925

Qy 65 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 124
|||

Db 926 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 985

Qy 125 AGTGCAGAATCCTTCAAAGCTT 146
|||

Db 986 AGTGCAGAATCCTTCAAAGCTT 1007

RESULT 4

US-08-457-646A-21

; Sequence 21, Application US/08457646A

; Patent No. 5679560

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Uknas, Scott Joseph

TITLE OF INVENTION: Genes for the synthesis of

TITLE OF INVENTION: antipathogenic substances

NUMBER OF SEQUENCES: 22

CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 7 Skyline Drive
; CITY: Hawthorne
; STATE: NY
; COUNTRY: USA
; ZIP: 10532

COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/457,646A
; FILING DATE: 01-JUN-1995
; CLASSIFICATION: 530

PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/457,205
; FILING DATE: 01-JUN-1995
; APPLICATION NUMBER: 08/258,261
; FILING DATE: 08-Jun-1994

ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

INFORMATION FOR SEQ ID NO: 21:

SEQUENCE CHARACTERISTICS:

; LENGTH: 1007 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

HYPOTHETICAL: NO

ANTI-SENSE: NO

FEATURE:

; NAME/KEY: CDS
; LOCATION: 1..669
; OTHER INFORMATION: /gene= "phz4"
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "This DNA sequence is repeated from SEQ ID
; OTHER INFORMATION: NO:17 so that the overlapping ORF4 may be
; OTHER INFORMATION: separately translated"

US-08-457-646A-21

Query Match 4.9%; Score 142; DB 1; Length 1007;
Best Local Similarity 100.0%; Pred. No. 4.1e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 866 CTCTAGAACGTTGTCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAACAAAG 925
Qy 65 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 124
Db 926 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 985
Qy 125 AGTGCAGAATCCTTCAAAGCTT 146
Db 986 AGTGCAGAATCCTTCAAAGCTT 1007

RESULT 5

US-08-458-076A-21

; Sequence 21, Application US/08458076A

; Patent No. 5698425

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Utknes, Scott Joseph

; TITLE OF INVENTION: Genes for the synthesis of

; TITLE OF INVENTION: antipathogenic substances

; NUMBER OF SEQUENCES: 22

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
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; ZIP: 10532

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; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/458,076A
; FILING DATE: 01-JUN-1995
; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/457,205
; FILING DATE: 01-JUN-1995
; APPLICATION NUMBER: 08/258,261
; FILING DATE: 08-Jun-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

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; LOCATION: 1..669
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; OTHER INFORMATION: /label= ORF4
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Qy 65 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 124
Db 926 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 985
Qy 125 AGTGCAGAATCCTTCAAAGCTT 146
Db 986 AGTGCAGAATCCTTCAAAGCTT 1007

RESULT 6

US-08-457-335A-21

; Sequence 21, Application US/08457335A

; Patent No. 5723759

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
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; APPLICANT: Uknnes, Scott Joseph

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TITLE OF INVENTION: antipathogenic substances

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CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/457,335A
; FILING DATE: 01-JUN-1995
; CLASSIFICATION: 800

PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/457,205
; FILING DATE: 01-JUN-1995
; APPLICATION NUMBER: 08/258,261
; FILING DATE: 08-Jun-1994

ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

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; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

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; NAME/KEY: CDS
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; OTHER INFORMATION: /gene= "phz4"
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US-08-457-335A-21

Query Match 4.9%; Score 142; DB 1; Length 1007;
Best Local Similarity 100.0%; Pred. No. 4.1e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 866 CTCTAGAACGTTGCCTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG 925
Qy 65 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 124
Db 926 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 985
Qy 125 AGTGCAGAATCCTTCAAAGCTT 146
Db 986 AGTGCAGAATCCTTCAAAGCTT 1007

Db 866 CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAACAAAG 925
Qy 65 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 124
Db 926 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 985
Qy 125 AGTGCAGAATCCTTCAAAGCTT 146
Db 986 AGTGCAGAATCCTTCAAAGCTT 1007

Title: US-09-965-175-1

RESULT 9

US-08-258-261B-17

; Sequence 17, Application US/08258261B

; Patent No. 5639949

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Uknes, Scott Joseph

TITLE OF INVENTION: Genes for the synthesis of

TITLE OF INVENTION: antipathogenic substances

NUMBER OF SEQUENCES: 22

CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 7 Skyline Drive
; CITY: Hawthorne
; STATE: NY
; COUNTRY: USA
; ZIP: 10532

COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/258,261B
; FILING DATE: 08-JUN-1994
; CLASSIFICATION: 800

PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/457,205
; FILING DATE: 01-JUN-1995

ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

INFORMATION FOR SEQ ID NO: 17:

SEQUENCE CHARACTERISTICS:

; LENGTH: 4603 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

FEATURE:

; NAME/KEY: CDS
; LOCATION: 230..1594
; OTHER INFORMATION: /gene= "phz1"
; OTHER INFORMATION: /label= ORF1
; OTHER INFORMATION: /note= "Open Reading Frame #1 for DNA sequence"

FEATURE:

; NAME/KEY: CDS
; LOCATION: 1598..2758
; OTHER INFORMATION: /gene= "phz2"
; OTHER INFORMATION: /label= ORF2
; OTHER INFORMATION: /note= "Open Reading Frame #2 for DNA sequence"

FEATURE:

; NAME/KEY: CDS
; LOCATION: 2764..3597
; OTHER INFORMATION: /gene= "phz3"
; OTHER INFORMATION: /label= ORF3
; OTHER INFORMATION: /note= "Open Reading Frame #3 for DNA sequence"

FEATURE:

; NAME/KEY: misc_feature
; LOCATION: 3597..4262
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "Open Reading Frame #4 of DNA sequence. This information
; OTHER INFORMATION: is repeated in SEQ ID NO:21 due to overlapping ORFs."
FEATURE:
NAME/KEY: misc_feature
LOCATION: 1..4603
OTHER INFORMATION: /note= "Four open reading frames
OTHER INFORMATION:
OTHER INFORMATION: Example 18 of the specification."
US-08-258-261B-17

Query Match 4.9%; Score 142; DB 1; Length 4603;
Best Local Similarity 100.0%; Pred. No. 8.2e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 5 CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGCCAGAACCTACATAAACAAAG 64
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
Db 4462 CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGCCAGAACCTACATAAACAAAG 4521

Qy 65 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 124
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
Db 4522 TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA 4581

Qy 125 AGTCAGAACCTCAAAGCTT 146
||| ||| ||| ||| ||| |||
Db 4582 AGTCAGAACCTCAAAGCTT 4603

RESULT 10

US-08-456-837-17

; Sequence 17, Application US/08456837

; Patent No. 5643774

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Utknes, Scott Joseph

TITLE OF INVENTION: Genes for the synthesis of

TITLE OF INVENTION: antipathogenic substances

NUMBER OF SEQUENCES: 22

CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 7 Skyline Drive
; CITY: Hawthorne
; STATE: NY
; COUNTRY: USA
; ZIP: 10532

COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/456,837
; FILING DATE: 01-JUN-1995
; CLASSIFICATION: 435

PRIOR APPLICATION DATA:

; APPLICATION NUMBER: 08/457,205
; FILING DATE: 01-JUN-1995
; APPLICATION NUMBER: 08/258,261
; FILING DATE: 08-Jun-1994

ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

INFORMATION FOR SEQ ID NO: 17:

SEQUENCE CHARACTERISTICS:

; LENGTH: 4603 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

FEATURE:

; NAME/KEY: CDS
; LOCATION: 230..1594
; OTHER INFORMATION: /gene= "phz1"
; OTHER INFORMATION: /label= ORF1
; OTHER INFORMATION: /note= "Open Reading Frame #1 for DNA sequence"

FEATURE:

; NAME/KEY: CDS
; LOCATION: 1598..2758
; OTHER INFORMATION: /gene= "phz2"
; OTHER INFORMATION: /label= ORF2
; OTHER INFORMATION: /note= "Open Reading Frame #2 for DNA sequence"

FEATURE:

; NAME/KEY: CDS
; LOCATION: 2764..3597
; OTHER INFORMATION: /gene= "phz3"
; OTHER INFORMATION: /label= ORF3

; *OTHER INFORMATION: /note= "Open Reading Frame #3 for DNA sequence"
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 3597..4262
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "Open Reading Frame #4 of DNA sequence. This information
; OTHER INFORMATION: is repeated in SEQ ID NO:21 due to overlapping ORFs."
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 1..4603
; OTHER INFORMATION: /note= "Four open reading frames
; OTHER INFORMATION:
; OTHER INFORMATION: Example 18 of the specification."
US-08-456-837-17

Query Match 4.9%; Score 142; DB 1; Length 4603;
Best Local Similarity 100.0%; Pred. No. 8.2e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	5	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG	64
Db	4462	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG	4521
Qy	65	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	124
Db	4522	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	4581
Qy	125	AGTGCAGAATCCTTCAAAGCTT	146
Db	4582	AGTGCAGAATCCTTCAAAGCTT	4603

Title

US-09-965-175-1

RESULT 11

US-08-457-342-17

; Sequence 17, Application US/08457342

; Patent No. 5662898

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Ucknes, Scott Joseph

; TITLE OF INVENTION: Genes for the synthesis of

; TITLE OF INVENTION: antipathogenic substances

; NUMBER OF SEQUENCES: 22

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 7 Skyline Drive
; CITY: Hawthorne
; STATE: NY
; COUNTRY: USA
; ZIP: 10532

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/457,342
; FILING DATE: 01-JUN-1995
; CLASSIFICATION: 424

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/457,205
; FILING DATE: 01-JUN-1995
; APPLICATION NUMBER: 08/258,261
; FILING DATE: 08-Jun-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

; INFORMATION FOR SEQ ID NO: 17:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 4603 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear

; MOLECULE TYPE: DNA (genomic)

; FEATURE:

; NAME/KEY: CDS
; LOCATION: 230..1594
; OTHER INFORMATION: /gene= "phz1"
; OTHER INFORMATION: /label= ORF1
; OTHER INFORMATION: /note= "Open Reading Frame #1 for DNA sequence"

; FEATURE:

; NAME/KEY: CDS
; LOCATION: 1598..2758
; OTHER INFORMATION: /gene= "phz2"
; OTHER INFORMATION: /label= ORF2
; OTHER INFORMATION: /note= "Open Reading Frame #2 for DNA sequence"

; FEATURE:

; NAME/KEY: CDS
; LOCATION: 2764..3597
; OTHER INFORMATION: /gene= "phz3"
; OTHER INFORMATION: /label= ORF3

; OTHER INFORMATION: /note= "Open Reading Frame #3 for DNA sequence"
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 3597..4262
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "Open Reading Frame #4 of DNA sequence. This information
; OTHER INFORMATION: is repeated in SEQ ID NO:21 due to overlapping ORFs."
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 1..4603
; OTHER INFORMATION: /note= "Four open reading frames
; OTHER INFORMATION:
; OTHER INFORMATION: Example 18 of the specification."
US-08-457-342-17

Query Match 4.9%; Score 142; DB 1; Length 4603;
Best Local Similarity 100.0%; Pred. No. 8.2e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	5	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG	64
Db	4462	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG	4521
Qy	65	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	124
Db	4522	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	4581
Qy	125	AGTGCAGAACATCCTCAAAGCTT	146
Db	4582	AGTGCAGAACATCCTCAAAGCTT	4603

RESULT 12

US-08-457-646A-17

; Sequence 17, Application US/08457646A

; Patent No. 5679560

; GENERAL INFORMATION:

APPLICANT: Schupp, Thomas
APPLICANT: Ligon, James M.
APPLICANT: Beck, James Joseph
APPLICANT: Hill, Dwight Steven
APPLICANT: Ryals, John Andrew
APPLICANT: Gaffney, Thomas Deane
APPLICANT: Lam, Stephen Ting
APPLICANT: Hammer, Phillip E.
APPLICANT: Uknnes, Scott Joseph

TITLE OF INVENTION: Genes for the synthesis of

TITLE OF INVENTION: antipathogenic substances

NUMBER OF SEQUENCES: 22

CORRESPONDENCE ADDRESS:

ADDRESSEE: Ciba-Geigy Corporation
STREET: 7 Skyline Drive
CITY: Hawthorne
STATE: NY
COUNTRY: USA
ZIP: 10532

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/457,646A
FILING DATE: 01-JUN-1995
CLASSIFICATION: 530

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/457,205
FILING DATE: 01-JUN-1995
APPLICATION NUMBER: 08/258,261
FILING DATE: 08-Jun-1994

ATTORNEY/AGENT INFORMATION:

NAME: Elmer, James Scott
REGISTRATION NUMBER: 36,129
REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

TELECOMMUNICATION INFORMATION:

TELEPHONE: 919-541-8614
TELEFAX: 919-541-8689

INFORMATION FOR SEQ ID NO: 17:

SEQUENCE CHARACTERISTICS:

LENGTH: 4603 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

FEATURE:

NAME/KEY: CDS
LOCATION: 230..1594
OTHER INFORMATION: /gene= "phz1"
OTHER INFORMATION: /label= ORF1
OTHER INFORMATION: /note= "Open Reading Frame #1 for DNA sequence"

FEATURE:

NAME/KEY: CDS
LOCATION: 1598..2758
OTHER INFORMATION: /gene= "phz2"
OTHER INFORMATION: /label= ORF2
OTHER INFORMATION: /note= "Open Reading Frame #2 for DNA sequence"

FEATURE:

NAME/KEY: CDS
LOCATION: 2764..3597
OTHER INFORMATION: /gene= "phz3"
OTHER INFORMATION: /label= ORF3

; OTHER INFORMATION: /note= "Open Reading Frame #3 for DNA sequence"
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 3597..4262
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "Open Reading Frame #4 of DNA sequence. This information
; OTHER INFORMATION: is repeated in SEQ ID NO:21 due to overlapping ORFs."
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 1..4603
; OTHER INFORMATION: /note= "Four open reading frames
; OTHER INFORMATION:
; OTHER INFORMATION: Example 18 of the specification."

US-08-457-646A-17

Query Match 4.9%; Score 142; DB 1; Length 4603;
Best Local Similarity 100.0%; Pred. No. 8.2e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	5	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGCCAGAACCTACATAAACAAAG	64
Db	4462	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGCCAGAACCTACATAAACAAAG	4521
Qy	65	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	124
Db	4522	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	4581
Qy	125	AGTGCAGAACATCCTCAAAGCTT	146
Db	4582	AGTGCAGAACATCCTCAAAGCTT	4603

RESULT 13

US-08-458-076A-17

; Sequence 17, Application US/08458076A

; Patent No. 5698425

; GENERAL INFORMATION:

APPLICANT: Schupp, Thomas
APPLICANT: Ligon, James M.
APPLICANT: Beck, James Joseph
APPLICANT: Hill, Dwight Steven
APPLICANT: Ryals, John Andrew
APPLICANT: Gaffney, Thomas Deane
APPLICANT: Lam, Stephen Ting
APPLICANT: Hammer, Phillip E.
APPLICANT: Uknes, Scott Joseph

TITLE OF INVENTION: Genes for the synthesis of

TITLE OF INVENTION: antipathogenic substances

NUMBER OF SEQUENCES: 22

CORRESPONDENCE ADDRESS:

ADDRESSEE: Ciba-Geigy Corporation
STREET: 7 Skyline Drive
CITY: Hawthorne
STATE: NY
COUNTRY: USA
ZIP: 10532

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/458,076A
FILING DATE: 01-JUN-1995
CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/457,205
FILING DATE: 01-JUN-1995
APPLICATION NUMBER: 08/258,261
FILING DATE: 08-Jun-1994

ATTORNEY/AGENT INFORMATION:

NAME: Elmer, James Scott
REGISTRATION NUMBER: 36,129
REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

TELECOMMUNICATION INFORMATION:

TELEPHONE: 919-541-8614
TELEFAX: 919-541-8689

INFORMATION FOR SEQ ID NO: 17:

SEQUENCE CHARACTERISTICS:

LENGTH: 4603 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

FEATURE:

NAME/KEY: CDS
LOCATION: 230..1594
OTHER INFORMATION: /gene= "phz1"
OTHER INFORMATION: /label= ORF1
OTHER INFORMATION: /note= "Open Reading Frame #1 for DNA sequence"

FEATURE:

NAME/KEY: CDS
LOCATION: 1598..2758
OTHER INFORMATION: /gene= "phz2"
OTHER INFORMATION: /label= ORF2
OTHER INFORMATION: /note= "Open Reading Frame #2 for DNA sequence"

FEATURE:

NAME/KEY: CDS
LOCATION: 2764..3597
OTHER INFORMATION: /gene= "phz3"
OTHER INFORMATION: /label= ORF3

; OTHER INFORMATION: /note= "Open Reading Frame #3 for DNA sequence"
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 3597..4262
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "Open Reading Frame #4 of DNA sequence. This information
; OTHER INFORMATION: is repeated in SEQ ID NO:21 due to overlapping ORFs."
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 1..4603
; OTHER INFORMATION: /note= "Four open reading frames
; OTHER INFORMATION:
; OTHER INFORMATION: Example 18 of the specification."

US-08-458-076A-17

Query Match 4.9%; Score 142; DB 1; Length 4603;
Best Local Similarity 100.0%; Pred. No. 8.2e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	5	CTCTAGAACGTTGTCCTTGACCCAGCGATAGACATCGGCCAGAACCTACATAAACAAAG	64
Db	4462	CTCTAGAACGTTGTCCTTGACCCAGCGATAGACATCGGCCAGAACCTACATAAACAAAG	4521
Qy	65	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	124
Db	4522	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	4581
Qy	125	AGTGCAGAACATCCTCAAAGCTT	146
Db	4582	AGTGCAGAACATCCTCAAAGCTT	4603

RESULT 14

US-08-457-335A-17

; Sequence 17, Application US/08457335A

; Patent No. 5723759

; GENERAL INFORMATION:

; APPLICANT: Schupp, Thomas
; APPLICANT: Ligon, James M.
; APPLICANT: Beck, James Joseph
; APPLICANT: Hill, Dwight Steven
; APPLICANT: Ryals, John Andrew
; APPLICANT: Gaffney, Thomas Deane
; APPLICANT: Lam, Stephen Ting
; APPLICANT: Hammer, Phillip E.
; APPLICANT: Ucknes, Scott Joseph

TITLE OF INVENTION: Genes for the synthesis of

TITLE OF INVENTION: antipathogenic substances

NUMBER OF SEQUENCES: 22

CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation
; STREET: 7 Skyline Drive
; CITY: Hawthorne
; STATE: NY
; COUNTRY: USA
; ZIP: 10532

COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/457,335A
; FILING DATE: 01-JUN-1995
; CLASSIFICATION: 800

PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/457,205
; FILING DATE: 01-JUN-1995
; APPLICATION NUMBER: 08/258,261
; FILING DATE: 08-Jun-1994

ATTORNEY/AGENT INFORMATION:

; NAME: Elmer, James Scott
; REGISTRATION NUMBER: 36,129
; REFERENCE/DOCKET NUMBER: CGC 1506/CIP3

TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8614
; TELEFAX: 919-541-8689

INFORMATION FOR SEQ ID NO: 17:

SEQUENCE CHARACTERISTICS:

; LENGTH: 4603 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

FEATURE:

; NAME/KEY: CDS
; LOCATION: 230..1594
; OTHER INFORMATION: /gene= "phz1"
; OTHER INFORMATION: /label= ORF1
; OTHER INFORMATION: /note= "Open Reading Frame #1 for DNA sequence"

FEATURE:

; NAME/KEY: CDS
; LOCATION: 1598..2758
; OTHER INFORMATION: /gene= "phz2"
; OTHER INFORMATION: /label= ORF2
; OTHER INFORMATION: /note= "Open Reading Frame #2 for DNA sequence"

FEATURE:

; NAME/KEY: CDS
; LOCATION: 2764..3597
; OTHER INFORMATION: /gene= "phz3"
; OTHER INFORMATION: /label= ORF3

; OTHER INFORMATION: /note= "Open Reading Frame #3 for DNA sequence"
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 3597..4262
; OTHER INFORMATION: /label= ORF4
; OTHER INFORMATION: /note= "Open Reading Frame #4 of DNA sequence. This information
; OTHER INFORMATION: is repeated in SEQ ID NO:21 due to overlapping ORFs."
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: 1..4603
; OTHER INFORMATION: /note= "Four open reading frames
; OTHER INFORMATION:
; OTHER INFORMATION: Example 18 of the specification."
US-08-457-335A-17

Query Match 4.9%; Score 142; DB 1; Length 4603;
Best Local Similarity 100.0%; Pred. No. 8.2e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	5	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG	64
Db	4462	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG	4521
Qy	65	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	124
Db	4522	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	4581
Qy	125	AGTGCAGAACATCCTCAAAGCTT	146
Db	4582	AGTGCAGAACATCCTCAAAGCTT	4603

RESULT 15

US-08-729-214-17

; Sequence 17, Application US/08729214

; Patent No. 5817502

; GENERAL INFORMATION:

; APPLICANT: Ligon, James M.

; APPLICANT: Hill, Dwight Steven

; APPLICANT: Ryals, John Andrew

; APPLICANT: Hammer, Phillip E.

; APPLICANT: van Pee, Karl-Heinz

; APPLICANT: Kirner, Sabine

; TITLE OF INVENTION: Genes for the synthesis of

; TITLE OF INVENTION: antipathogenic substances

; NUMBER OF SEQUENCES: 27

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Ciba-Geigy Corporation

; STREET: 520 White Plains Road

; CITY: Tarrytown

; STATE: NY

; COUNTRY: USA

; ZIP: 10591

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/729,214

; FILING DATE: TBA

; CLASSIFICATION: 435

; ATTORNEY/AGENT INFORMATION:

; NAME: Meigs, J. Timothy

; REGISTRATION NUMBER: 38,241

; REFERENCE/DOCKET NUMBER: CGC 1506/CIP5

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-541-8587

; TELEFAX: 919-541-8689

; INFORMATION FOR SEQ ID NO: 17:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 4603 base pairs

; TYPE: nucleic acid

; STRANDEDNESS: single

; TOPOLOGY: linear

; MOLECULE TYPE: DNA (genomic)

; FEATURE:

; NAME/KEY: CDS

; LOCATION: 230..1594

; OTHER INFORMATION: /gene= "phz1"

; OTHER INFORMATION: /label= ORF1

; OTHER INFORMATION: /note= "Open Reading Frame #1 for DNA sequence"

; FEATURE:

; NAME/KEY: CDS

; LOCATION: 1598..2758

; OTHER INFORMATION: /gene= "phz2"

; OTHER INFORMATION: /label= ORF2

; OTHER INFORMATION: /note= "Open Reading Frame #2 for DNA sequence"

; FEATURE:

; NAME/KEY: CDS

; LOCATION: 2764..3597

; OTHER INFORMATION: /gene= "phz3"

; OTHER INFORMATION: /label= ORF3

; OTHER INFORMATION: /note= "Open Reading Frame #3 for DNA sequence"

; FEATURE:

; NAME/KEY: misc_feature

; LOCATION: 3597..4262

; OTHER INFORMATION: /label= ORF4

; OTHER INFORMATION: /note= "Open Reading Frame #4 of DNA sequence. This information

; OTHER INFORMATION: is repeated in SEQ ID NO:21 due to overlapping ORFs."

; FEATURE:

; NAME/KEY: misc_feature
; LOCATION: 1..4603
; OTHER INFORMATION: /note= "Four open reading frames
; OTHER INFORMATION:
; OTHER INFORMATION: Example 18 of the specification."
US-08-729-214-17

Query Match 4.9%; Score 142; DB 1; Length 4603;
Best Local Similarity 100.0%; Pred. No. 8.2e-28;
Matches 142; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	5	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG	64
Db	4462	CTCTAGAACGTTGCCTTGACCCAGCGATAGACATCGGGCCAGAACCTACATAAACAAAG	4521
Qy	65	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	124
Db	4522	TCAGACATTACTGAGGCTGCTACCATGCTAGATTTCAAAACAAGCGTAAATATCTGAAA	4581
Qy	125	AGTGCAGAACCTTCAAAGCTT	146
Db	4582	AGTGCAGAACCTTCAAAGCTT	4603